

WHAT IS CLAIMED IS:

1. An ultrasound probe which is shielded from electronic emissions comprising:

5 an ultrasonic transducer located in a fluid chamber;

a movable mechanism on which the transducer is mounted for scanning of the transducer;

10 an acoustic window enclosing the fluid chamber through which ultrasonic energy is transmitted or received; and

a conductive layer lining the acoustic window which is coupled to a reference potential.

15 2. The ultrasound probe of Claim 1, wherein the conductive layer is located on the inner surface of the acoustic window.

20 3. The ultrasound probe of Claim 1, wherein the conductive layer is embedded in the acoustic window.

25 4. The ultrasound probe of Claim 1, wherein the acoustic window comprises a dome-shaped cap.

5. The ultrasound probe of Claim 1, wherein the acoustic window comprises a relatively flat contact lens-shaped cap.

30 6. The ultrasound probe of Claim 4, wherein the ultrasonic transducer comprises a curved array transducer which is oscillated to scan a volumetric region.

35 7. The ultrasound probe of Claim 1, wherein

the conductive layer is made of gold, a titanium/gold alloy, or aluminum.

5 8. The ultrasound probe of Claim 1, wherein the conductive layer is formed on the acoustic window by vacuum deposition processes such as sputtering, vacuum evaporation, physical vapor deposition, arc vapor deposition, ion plating or laminating.

10 9. The ultrasound probe of Claim 1, wherein the conductive layer is coupled to a reference potential by conductive epoxy, solder connection, clamped pressure creating a metal-to-metal contact, conductive gaskets or O-rings, or discrete drain
15 wires.

 10. The ultrasound probe of Claim 1, wherein the conductive layer comprises a continuous layer of conductive material.

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 11. The ultrasound probe of Claim 1, wherein the conductive layer comprises a porous layer of conductive material.

25 12. The ultrasound probe of Claim 11, wherein the porous layer comprises a grid-like screen of conductive material.

30 13. The ultrasound probe of Claim 1, wherein the conductive layer is thin enough to be highly transmissive of ultrasound at a frequency of the transducer.

35 14. The ultrasound probe of Claim 13, wherein the conductive layer exhibits a thickness of 1/16 of

a wavelength or less of the frequency of the transducer.

- 5 15. The ultrasound probe of Claim 13, wherein the conductive layer exhibits a thickness in the range of 1000-3000 Angstroms.